

SECTION 07530

UNBALLASTED-SINGLE-PLY MEMBRANE ROOFING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification, apply to this Section.

1.2 SUMMARY

- A. This section includes the following:
 - 1. Mechanically fastened sheet-roofing systems.
- B. Single – ply roofing membranes include the following:
 - 1. Ethylene propylene diene monomer (EDPM).
- C. Related Sections include the following:
 - 1. Division 7 Section "Sheet Metal Flashing and Trim" for roof penetration flashings, flashings, and counterflashings.
- D. Manufacturer: Obtain primary single-ply membrane roofing from a single manufacturer. Provide secondary materials as recommended by the manufacturer of the primary materials.
- E. Installer: A firm with successful experience in installing roofing systems similar to those required for this project and acceptable to or licensed by the manufacturer of the primary roofing materials.

1.3 SUBMITTALS

- A. General: Submit the following according to the conditions of the Contract and Division 1 Specification Sections.
- B. Product data, installations, and general recommendations from the manufacturer of single-ply membrane system for types of roof required. Include data substantiating that materials comply with requirements.
- C. Samples of finished roofing sheets.
- D. UL Listing: Provide labeled materials that have been tested and listed by UL in "Building Materials Directory" for application indicated, with Class A rated materials/systems for roof slopes shown.

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- E. Shop Drawings: Include plans, sections, and details of the following:
 - 1. Base flashings and membrane terminations.
- F. Installer Certificates: Signed by roofing system manufacturer certifying that the installer is approved, authorized, or licensed by the manufacturer to install the specified roofing system.
- G. Maintenance Data: For roofing system to be included in the maintenance manuals see Division 1.
- H. Warranty: Sample copy of standard roofing manufacturer's total system warranty stating obligations, remedies, limitations and exclusions of warranty.

1.4 QUALITY ASSURANCE

- A. Manufacturer: Obtain primary single-ply membrane roofing from a single manufacturer. Provide secondary materials as recommended by the manufacturer of the primary materials.
- B. Installer: Engage an experienced installer that has specialized in installing roofing systems similar to that required for this project. Installer must be acceptable to or licensed by the manufacturer of the primary roofing material.
- C. Pre-roofing Conference: Before installing roofing and associated Work, meet at the mutually agreed location Installer, roofing manufacturer, installers of related work, and other entities concerned with the roofing performance, including governing authorities, Architect and Owner. Examine substrate conditions and finishes for compliance with requirements, including flatness and fastening. Review loading limitations of deck during and after roofing. Review flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and conditions of other construction that will affect roofing. Review temporary protection requirements for the roofing during construction. Provide at least 72 hours advance notice to participants prior to convening pre-roofing conference.

1.5 PROJECT CONDITIONS

- A. Weather: Proceed with roofing work when existing and forecasted weather conditions permit work to be performed in accordance with the manufacturers' recommendations and warranty requirements.
- B. Substrate Conditions: Do not begin roofing installation until substrates have been inspected and are determined to be in satisfactory condition.

1.6 WARRANTY

- A. Full total system warranty: Submit two executed copies of the ten-year "Roofing Warranty" covering the work of this Section including roofing membrane, composition flashing, and roof accessories, signed and counter signed by the install.

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- B. Warranty period: 15 years on leaks caused by manufacturers' materials and to workmanship used to install the materials. 20 years on membrane deterioration to the point of failure due to weathering.
- C. The warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents

PART 2 – PRODUCTS

2.1 GENERAL

- A. Performance: Provide roofing materials identified to be of generic type indicated and tested to show compliance with required performances.
- B. Compatibility: Provide products recommended by manufacturers to be fully compatible with the indicated substrates. Provide separation materials as required to eliminate contact between incompatible materials.

2.2 EPDM MEMBRANE

- A. General: Ethylene propylene diene monomers formed into uniform, flexible sheets, complying with ASTM D 4637, Type I
 - 1. Class SR: Scrim or fabric internally reinforced.
 - 2. Thickness: .060
 - 3. Exposed Face Color: Black
- B. Mechanically fastened EPDM Membrane: Manufacturer's standard installation.
 - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
 - a. Firestone Building Products Co.
 - b. Manville Building Products Corp.
 - c. Carlisle Syntec Systems
 - d. GenFlex Roofing Systems

2.3 AUXILIARY MATERIALS

- A. Sheet Seaming System: Manufacturer's standard materials for sealing lapped joints, including edge sealer to cover exposed spliced edges as recommended by the membrane manufacturer.
 - 1. Furnish liquid type auxiliary materials that meet VOC limits of authorities having jurisdiction.

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- B. Flashing accessories: Type recommended by the membrane manufacturer, including adhesive tapes, flashing cements, and sealants.
- C. Flashing Material: Manufacturer's standard 60-mil thick EPDM system compatible with single-ply membrane.
- D. Slip sheet: Type recommended by the membrane manufacturer for protecting membrane from incompatible substrates.
- E. Splice Adhesive and Cleaner: Single-component butyl splicing adhesive and solvent-based splice cleaner.
- F. Splice Primer and Tape: Manufacturer's standard synthetic rubber polymer primer and 3" wide minimum, butyl splice tape with release film.
- G. Lap Sealant: Manufacturer's standard single component system.
- H. Water Cutoff Mastic: Manufacturer's standard butyl mastic sealant.
- I. Metal Termination Bars: Manufacturer's standard aluminum bars, approximately 1" wide by .050" thick, pre-punched.
- J. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc coated steel sheet, approx. 1 1/4" wide by .050 inch thick, pre-punched for auger type fasteners.
- K. Fasteners: Factory approved fasteners for fastening roofing membrane to concrete substrate through existing Trocal membrane and insulation.
- L. Expansion Joints: Manufacturer's standard expansion joint materials.
- M. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashing, preformed inside and outside corner sheet flashing, T joint covers. In seam sealants, termination reglets, and other accessories recommended by the roofing system manufacturer.

PART 3 – EXECUTION

3.1 PREPARING SUBSTRATE

- A. General: Comply with manufacturers' instructions to prepare the substrate to receive single-ply membrane system.
 - 1. Verify that penetrations, expansion joints, and blocking are in place and secured.
- B. Clean substrate of dust, debris, and other substances detrimental to the single-ply system installation. Remove sharp projections.
- C. Install flashings and accessory items as recommended by the manufacturer.

3.1 INSTALLING MEMBRANE

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- A. General: Start installation only in presence of manufacturer's technical representative.
 - 1. Accurately align sheets and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
 - 2. Mechanically fasten sheets securely at terminations and perimeter of roofing.
 - 3. Apply roofing sheet with side laps shingled with the slope of the roof deck.
 - 4. In splice attachment: Secure one edge of the sheet using fastening battens centered within the membrane splice and mechanically fasten sheet to roof deck. Field splice seam according to "Seam Installation" article.
 - 5. Install sheet and auxiliary materials to tie in at existing roofing locations.
 - 6. Cut out and repair defects at the end of each day's work.

3.5 PROTECTING ROOFING

- A. Repair or replace (as required) deteriorated or defective work found at the time of final inspection.

END OF SECTION